

AMENDMENTS TO THE CLAIMS

The following is a current listing of claims.

1. (Previously Presented) An LCD device, comprising:

a liquid crystal panel having a plurality of pixels;

a backlight for supplying light;

a timing control circuit for generating a gate clock signal and a plurality of control signals, sensing whether or not data to be displayed in said liquid crystal panel is toggled, and generating a control signal for controlling a brightness of said backlight according to sensed results;

a gray scale voltage generating circuit for generating a plurality of gray scale voltages corresponding to said data to be displayed in said liquid crystal panel in response to said gate clock signal;

a gate driving circuit for scanning the pixels of said liquid crystal panel a row at a time in order, in response to the gate clock signal; and

a source driving circuit for generating liquid crystal driving voltages corresponding to the data to be displayed in said liquid crystal panel in response to the gray scale voltages and the control signals, and outputting generated liquid crystal driving voltages to said liquid crystal panel.

2. (Previously Presented) The LCD device according to claim 1, wherein said timing control circuit comprises:

a signal generating unit for generating the gate clock signal and the control signals; and

a flicker reducing unit for reducing visually recognized flickers by detecting a number of toggled data included in data of one frame to be displayed in said liquid crystal panel and controlling brightness of said backlight according to the detected number of toggled data.

3. (Previously Presented) The LCD device according to claim 2, wherein said flicker reducing unit comprises:

a flicker sensing portion for sensing in pixel unit whether or not said data is flickered by detecting whether or not said data is toggled;

a first counter for counting the number of toggled data among data displayed in one line of said liquid crystal panel according to said flicker sensing portion;

a first comparator for detecting whether or not the entire data in the line is toggled by comparing the results from said first counter with a first standard value;

a second counter for counting a number of lines where the entire data is toggled, according to the results detected by said first comparator; and

a second comparator for comparing the results from said second counter with a second standard value, and generating the control signal to dim the backlight when results from said second counter is the same as or higher than a second standard value.

4. (Original) The LCD device according to claim 3, wherein said flicker sensing portion comprises:

a toggling detector for detecting whether or not each of bits in the data is toggled by receiving said bits, delaying received bits for a given time period and performing XOR operation to each of delayed and non-delayed bits;

an adder for counting the number of toggled bits among said bits forming said data in response to the results of said XOR operation to each of said bits generated from said toggling detector; and

a third comparator for detecting whether the data is toggled by comparing the number of toggled bits with a third standard value.

5. (Previously Presented) The LCD device according to claim 3, wherein said flicker reducing unit generates a control signal to restore the brightness of the backlight when the number of toggled data included in one frame is below the second standard value.

6. (Original) The LCD device according to claim 5, wherein said flicker reducing unit can control the brightness of the backlight at more than one level.

7. (Previously Presented) A method for reducing flickers in an LCD device, comprising the steps of:

inputting data into a timing controller of the LCD device;

detecting whether or not inputted data is toggled;

counting the number of toggled data in a line to be displayed in the LCD device;

counting the number of toggled lines in a frame to be displayed in the LCD device; and

controlling brightness of the LCD device according to the number of toggled lines.

8. (Previously Presented) The method for reducing flickers according to claim 7, wherein the step of detecting whether or not inputted data is toggled includes:

detecting whether or not each of bits forming the data is toggled by receiving the bits;
delaying received bits for a given time;
performing XOR operation on each of the delayed bits and non-delayed bits;
counting a number of toggled bits using the results of the XOR operation; and
comparing the number of toggled bits with a first standard value.

9. (Original) The method for reducing flickers according to claim 8, wherein the step of counting the number of toggled data in a line to be displayed in said LCD device includes:

increasing a first count value when the number of toggled bits is the same as the first standard value; and

comparing the first count value with a second standard value.

10. (Original) The method for reducing flickers according to claim 9, wherein the step of counting the number of toggled lines in a frame to be displayed in the LCD device includes increasing a second count value when the first count value is the same as the second standard value.

11. (Original) The method for reducing flickers according to claim 10, wherein the step of controlling brightness of the LCD device according to the number of toggled line includes:

comparing the second count value with a third standard value; and

dimming the brightness of the backlight when the second count value is the same as or higher than the third standard value.

12. (Original) The method for reducing flickers according to claim 11, wherein the step of controlling brightness of the LCD device according to the number of toggled line further includes restoring the brightness of the backlight when the second count value becomes below the third standard value after dimming the brightness of the backlight.

13. (Original) The method for reducing flickers according to claim 12, wherein the brightness of the backlight is set to be controlled at more than one level.

14. (Cancelled)

15. (Cancelled)

16. (Currently Amended) A liquid crystal display (LCD) device, comprising:
a liquid crystal panel having a plurality of pixels;
a backlight arranged in the liquid crystal panel;
a means for generating a gate clock signal and a plurality of control signals;
a means for generating a control signal; and
a means for reducing flicker in the liquid crystal display which decreases the brightness
of the backlight

~~The liquid crystal display (LCD) device according to claim 14,~~ wherein the means for reducing flicker comprises:

a flicker sensing portion;

a first counter in electrical communication with the flicker sensing portion;

a second comparator in electrical communication with the first counter;
a second counter in electrical communication with the second comparator; and
a third comparator in electrical communication with the second counter.

17. (Previously Presented) The liquid crystal display (LCD) device according to claim 16, wherein the flicker sensing portion comprises:

a toggle detector capable of receiving a color signal;
an adder in electrical communication with the toggle detector; and
a first comparator in electrical communication with the toggle detector.

18. (Previously Presented) The liquid crystal display (LCD) device according to claim 17, wherein the third comparator outputs a control signal to the backlight to control a brightness of the backlight.